#23

Patent
Attorney's Docket No. 030560-057

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Friedrich ALTMANN	)	Group Art Unit: 1635
	)	
Serial No.: 09/913,858	)	Examiner: Sean McGarry
	)	
Filed: August 20, 2001	)	**ATTENTION: BOX SEQUENCE**
	)	
For: FUCOSYL TRANSFERASE GENE	)	

DECLARATION PURSUANT TO
37 C.F.R. §§1.821-1.825

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Donna M. Meuth, declare as follows:

1. That the content of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 C.F.R. §1.821(c) and (e), respectively, are the same in compliance with §1.821(f).

2. That the submission, filed in accordance with 37 C.F.R. §1.821(g)[or (h)], herein does not include new matter [or go beyond the disclosure in the international application].

Serial No.: 09/913,858

I hereby declare that all statements made herein of my own knowledge are true and that all statements were made on information and belief and are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

July 10, 2003
Date

Donna M. Meuth
Registration No. 36,607

1635

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Friedrich ALTMANN	)	Group Art Unit: 1635
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For: FUCOSYL TRANSFERASE GENE	)	

TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In complete response to the Office communication dated **June 11, 2003**, enclosed please find:

[X] A copy of the "Sequence Listing" in computer readable form in compliance with 37 C.F.R. §§1.823(b) and 1.824.

[X] A statement that the content of the paper and computer readable copies are the same as set forth in 37 C.F.R. §1.821(f).

The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this paper is enclosed.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404
Alexandria, VA 22313-1404
(703) 836-6620

Date: July 16, 2003

By _____
Donna M. Meuth
Registration No. 36,607

RAW SEQUENCE LISTING DATE: 07/15/2003
PATENT APPLICATION: **US/09/913,858B** TIME: 10:50:53

Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**


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 4 <110> APPLICANT: Altmann, Friedrich
 6 <120> TITLE OF INVENTION: Fucosyl Transferase Gene
 8 <130> FILE REFERENCE: 030560-057
10 <140> CURRENT APPLICATION NUMBER: US 09/913,858B
11 <141> CURRENT FILING DATE: 2001-08-20
13 <150> PRIOR APPLICATION NUMBER: PCT/AT00/00040
14 <151> PRIOR FILING DATE: 2000-02-17
16 <150> PRIOR APPLICATION NUMBER: AT A 270/99
17 <151> PRIOR FILING DATE: 1999-02-18
19 <160> NUMBER OF SEQ ID NOS: 31
21 <170> SOFTWARE: PatentIn version 3.1
23 <210> SEQ ID NO: 1
25 <211> LENGTH: 2198
26 <212> TYPE: DNA
27 <213> ORGANISM: Unknown Organism
29 <220> FEATURE:
30 <223> OTHER INFORMATION: Description of Unknown Organism:plant
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34 aaaaaacaac agcaagctgt gttttttta tcgttctttt tctttaaaca agcaccccca 120
35 tcatggaatc gtgctcataa cgccaaaatt ttccatttcc ctttgatttt tagtttattt 180
36 tgcggaattg gcagttgggg gcgcaattga atgatgggtc tgttgacgaa tcttcgaggc 240
37 tcgagaacag atggtgccca acaagacagc ttacccgttt tggctccggg aggcaaccca 300
38 aagaggaaat ggagcaatct aatgcctctt gttgttgccc ttgtggtcat cgcggagatc 360
39 gcgtttctgg gtaggttgga tatggccaaa aacgccgcca tggttgactc cctcgctgac 420
40 ttcttctacc gctctcgagc ggtcgttgaa ggtgacgatt tggggttggg tttggtggct 480
41 tctgatcgga attctgaatc gtatagttgt gaggaatggt tggagaggga ggatgctgtc 540
42 acgtattcga ggggcttttc caaagagcct atttttgttt ctggagctga tcaggagtgg 600
43 aagtcgtgtt cggttggatg taaatttggg tttagtgggg atagaaagcc agatgccgca 660
44 tttgggttac ctcaaccaag tggaacagct agcattctgc gatcaatgga atcagcagaa 720
45 tactatgctg agaacaatat tgccatggca agacggaggg gatataacat cgtaatgaca 780
46 accagtctat cttcggatgt tcctgttgga tatttttcat gggctgagta tgatatgatg 840
47 gcaccagtgc agccgaaaac tgaagctgct cttgcagctg ctttcatttc caattgtggt 900
48 gctcgaaatt tccggttgca agctcttgag gcccttgaaa aatcaaacat caaaattgat 960
49 tcttatggtg gttgtcacag gaaccgtgat ggaagagtga acaaagtgga agccctgaag 1020
50 cactacaaat ttagcttagc gtttgaaaat tcgaatgagg aagattatgt aactgaaaaa 1080
51 ttcttccaat cccttgttgc tggaactgtc cctgtggttg ttggtgctcc aaatattcag 1140
52 gactttgctc cttctcctgg ttcaatttta catattaaag agatagagga tgttgagtct 1200
53 gttgcaaaga ccatgagata tctagcagaa aatcccgaag catataatca atcattgagg 1260
54 tggaagtatg agggtccatc tgactccttc aaggcccttg tggatatggc agctgtgcat 1320
55 tcatcgtgcc gtctttgcat tcacttggcc acagtgagta gagagaagga agaaaataat 1380
56 ccaagcctta agagacgtcc ttgcaagtgc actagagggc cagaaaccgt atatcatatc 1440
57 tatgtcagag aaaggggaag gtttgagatg gagtccattt acctgaggtc tagcaattta 1500
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Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**

58 actctgaatg ctgtgaaggc tgctgttgtt ttgaagttca catccctgaa tcttgtgcct 1560
59 gtatggaaga ctgaaaggcc tgaagttata agaggggga gtgctttaaa actctacaaa 1620
60 atatacccaa ttggcttgac acagagacaa gctctttata ccttcagctt caaaggtgat 1680
61 gctgatttca ggagtcactt ggagaacaat ccttgtgcca agtttgaagt catttttgtg 1740
62 tagcatgcgc taaatggtac ctctgctcta cctgaattag cttcacttag ctgagcacta 1800
63 gctagagttt taggaatgag tatggcagtg aatatggcat ggctttattt atgcctagtt 1860
64 tcttggccaa ctcattgatg ttttgtataa gacatcacac tttaatttta aacttgtttc 1920
65 tgtagaagtg caaatccata tttaatgctt agttttagtg ctcttatctg atcatctaga 1980
66 agtcacagtt cttgtatatt gtgagtgaaa actgaaatct aatagaagga tcagatgttt 2040
67 cactcaagac acattattac ttcatgttgt tttgatgatc tcgagctttt ttagtgtctg 2100
68 gaactgtccc tgtggtttga gcacctgtta ttgcttcagt gttactgtcc agtggttatc 2160
69 gtttttgacc tctaaaaaaa aaaaaaaaaa aaaaaaaa 2198
71 <210> SEQ ID NO: 2
72 <211> LENGTH: 510
73 <212> TYPE: PRT
74 <213> ORGANISM: Unknown Organism
76 <220> FEATURE:
77 <223> OTHER INFORMATION: Description of Unknown Organism:plant
79 <400> SEQUENCE: 2
80 Met Met Gly Leu Leu Thr Asn Leu Arg Gly Ser Arg Thr Asp Gly Ala
81 1 5 10 15
83 Gln Gln Asp Ser Leu Pro Val Leu Ala Pro Gly Gly Asn Pro Lys Arg
84 20 25 30
86 Lys Trp Ser Asn Leu Met Pro Leu Val Val Ala Leu Val Val Ile Ala
87 35 40 45
89 Glu Ile Ala Phe Leu Gly Arg Leu Asp Met Ala Lys Asn Ala Ala Met
90 50 55 60
92 Val Asp Ser Leu Ala Asp Phe Phe Tyr Arg Ser Arg Ala Val Val Glu
93 65 70 75 80
95 Gly Asp Asp Leu Gly Leu Gly Leu Val Ala Ser Asp Arg Asn Ser Glu
96 85 90 95
98 Ser Tyr Ser Cys Glu Glu Trp Leu Glu Arg Glu Asp Ala Val Thr Tyr
99 100 105 110
101 Ser Arg Gly Phe Ser Lys Glu Pro Ile Phe Val Ser Gly Ala Asp Gln
102 115 120 125
104 Glu Trp Lys Ser Cys Ser Val Gly Cys Lys Phe Gly Phe Ser Gly Asp
105 130 135 140
107 Arg Lys Pro Asp Ala Ala Phe Gly Leu Pro Gln Pro Ser Gly Thr Ala
108 145 150 155 160
110 Ser Ile Leu Arg Ser Met Glu Ser Ala Glu Tyr Tyr Ala Glu Asn Asn
111 165 170 175
113 Ile Ala Met Ala Arg Arg Arg Gly Tyr Asn Ile Val Met Thr Thr Ser
114 180 185 190
116 Leu Ser Ser Asp Val Pro Val Gly Tyr Phe Ser Trp Ala Glu Tyr Asp
117 195 200 205
119 Met Met Ala Pro Val Gln Pro Lys Thr Glu Ala Ala Leu Ala Ala Ala
120 210 215 220
122 Phe Ile Ser Asn Cys Gly Ala Arg Asn Phe Arg Leu Gln Ala Leu Glu
123 225 230 235 240

RAW SEQUENCE LISTING DATE: 07/15/2003
PATENT APPLICATION: **US/09/913,858B** TIME: 10:50:53

Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**

```
125 Ala Leu Glu Lys Ser Asn Ile Lys Ile Asp Ser Tyr Gly Gly Cys His
126                 245                 250                 255
128 Arg Asn Arg Asp Gly Arg Val Asn Lys Val Glu Ala Leu Lys His Tyr
129             260                 265                 270
131 Lys Phe Ser Leu Ala Phe Glu Asn Ser Asn Glu Glu Asp Tyr Val Thr
132         275                 280                 285
134 Glu Lys Phe Phe Gln Ser Leu Val Ala Gly Thr Val Pro Val Val Val
135     290                 295                 300
137 Gly Ala Pro Asn Ile Gln Asp Phe Ala Pro Ser Pro Gly Ser Ile Leu
138 305                 310                 315                 320
140 His Ile Lys Glu Ile Glu Asp Val Glu Ser Val Ala Lys Thr Met Arg
141                 325                 330                 335
143 Tyr Leu Ala Glu Asn Pro Glu Ala Tyr Asn Gln Ser Leu Arg Trp Lys
144             340                 345                 350
146 Tyr Glu Gly Pro Ser Asp Ser Phe Lys Ala Leu Val Asp Met Ala Ala
147         355                 360                 365
149 Val His Ser Ser Cys Arg Leu Cys Ile His Leu Ala Thr Val Ser Arg
150     370                 375                 380
152 Glu Lys Glu Glu Asn Asn Pro Ser Leu Lys Arg Arg Pro Cys Lys Cys
153 385                 390                 395                 400
155 Thr Arg Gly Pro Glu Thr Val Tyr His Ile Tyr Val Arg Glu Arg Gly
156                 405                 410                 415
158 Arg Phe Glu Met Glu Ser Ile Tyr Leu Arg Ser Ser Asn Leu Thr Leu
159             420                 425                 430
161 Asn Ala Val Lys Ala Ala Val Val Leu Lys Phe Thr Ser Leu Asn Leu
162         435                 440                 445
164 Val Pro Val Trp Lys Thr Glu Arg Pro Glu Val Ile Arg Gly Gly Ser
165     450                 455                 460
167 Ala Leu Lys Leu Tyr Lys Ile Tyr Pro Ile Gly Leu Thr Gln Arg Gln
168 465                 470                 475                 480
170 Ala Leu Tyr Thr Phe Ser Phe Lys Gly Asp Ala Asp Phe Arg Ser His
171                 485                 490                 495
173 Leu Glu Asn Asn Pro Cys Ala Lys Phe Glu Val Ile Phe Val
174             500                 505                 510
177 <210> SEQ ID NO: 3
178 <211> LENGTH: 105
179 <212> TYPE: DNA
180 <213> ORGANISM: Artificial Sequence
182 <220> FEATURE:
183 <223> OTHER INFORMATION: Description of Artificial Sequence: GlcNAc-alpha1,3-fucosyl
185 <400> SEQUENCE: 3
186 gaagccctga agcactacaa atttagctta gcgtttgaaa attcgaatga ggaagattat 60
187 gtaactgaaa aattcttcca atcccttgtt gctggaactg tccct                 105
189 <210> SEQ ID NO: 4
190 <211> LENGTH: 35
191 <212> TYPE: PRT
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Description of Artificial Sequence: Mung bean
```

RAW SEQUENCE LISTING DATE: 07/15/2003
PATENT APPLICATION: **US/09/913,858B** TIME: 10:50:53

Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**

```
197 <400> SEQUENCE: 4
198 Glu Ala Leu Lys His Tyr Lys Phe Ser Leu Ala Phe Glu Asn Ser Asn
199   1               5                  10                  15
201 Glu Glu Asp Tyr Val Thr Glu Lys Phe Phe Gln Ser Leu Val Ala Gly
202              20                  25                  30
204 Thr Val Pro
205          35
208 <210> SEQ ID NO: 5
209 <211> LENGTH: 15
210 <212> TYPE: PRT
211 <213> ORGANISM: Artificial Sequence
213 <220> FEATURE:
214 <223> OTHER INFORMATION: Description of Artificial Sequence:n-terminal sequence
215       of tryptic peptide
217 <220> FEATURE:
218 <221> NAME/KEY: MISC_FEATURE
219 <222> LOCATION: (5)..(5)
220 <223> OTHER INFORMATION: Xaa = any amino acid
222 <400> SEQUENCE: 5
W--> 224 Lys Pro Asp Ala Xaa Phe Gly Leu Pro Gln Pro Ser Thr Ala Ser
225 1               5                  10                  15
230 <210> SEQ ID NO: 6
231 <211> LENGTH: 10
232 <212> TYPE: PRT
233 <213> ORGANISM: Artificial Sequence
235 <220> FEATURE:
236 <223> OTHER INFORMATION: Description of Artificial Sequence:n-terminal sequence
237       of tryptic peptide
239 <400> SEQUENCE: 6
240 Pro Glu Thr Val Tyr His Ile Tyr Val Arg
241   1               5                  10
244 <210> SEQ ID NO: 7
245 <211> LENGTH: 13
246 <212> TYPE: PRT
247 <213> ORGANISM: Artificial Sequence
249 <220> FEATURE:
250 <223> OTHER INFORMATION: Description of Artificial Sequence:n-terminal sequence
251       of tryptic peptide
253 <400> SEQUENCE: 7
254 Met Glu Ser Ala Glu Tyr Tyr Ala Glu Asn Asn Ile Ala
255   1               5                  10
258 <210> SEQ ID NO: 8
259 <211> LENGTH: 10
260 <212> TYPE: PRT
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Description of Artificial Sequence:n-terminal sequence
265       of tryptic peptide
267 <400> SEQUENCE: 8
```

RAW SEQUENCE LISTING DATE: 07/15/2003
PATENT APPLICATION: US/09/913,858B TIME: 10:50:53

Input Set : A:\030560-057.ST25.txt
Output Set: N:\CRF4\07152003\I913858B.raw

```
268 Gly Arg Phe Glu Met Glu Ser Ile Tyr Leu
269   1               5                  10
271 <210> SEQ ID NO: 9
272 <211> LENGTH: 29
273 <212> TYPE: DNA
274 <213> ORGANISM: Artificial Sequence
276 <220> FEATURE:
277 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
279 <220> FEATURE:
280 <221> NAME/KEY: misc_feature
281 <222> LOCATION: (3)..(15)
282 <223> OTHER INFORMATION: n = any nucleotide
284 <400> SEQUENCE: 9
W--> 285 gcngartayt aygcngaraa yaayathgc                                  29
288 <210> SEQ ID NO: 10
289 <211> LENGTH: 22
290 <212> TYPE: DNA
291 <213> ORGANISM: Artificial Sequence
293 <220> FEATURE:
294 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
296 <220> FEATURE:
297 <221> NAME/KEY: misc_feature
298 <222> LOCATION: (14)..(17)
299 <223> OTHER INFORMATION: n = any nucleotide
301 <400> SEQUENCE: 10
W--> 302 crtadatrtg rtanacngty tc                                       22
305 <210> SEQ ID NO: 11
306 <211> LENGTH: 20
307 <212> TYPE: DNA
308 <213> ORGANISM: Artificial Sequence
310 <220> FEATURE:
311 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
313 <220> FEATURE:
314 <221> NAME/KEY: misc_feature
315 <222> LOCATION: (6)..(6)
316 <223> OTHER INFORMATION: n = any nucleotide
318 <400> SEQUENCE: 11
W--> 319 tadatnswyt ccatytcraa                                           20
322 <210> SEQ ID NO: 12
323 <211> LENGTH: 20
324 <212> TYPE: DNA
325 <213> ORGANISM: Artificial Sequence
327 <220> FEATURE:
328 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
330 <400> SEQUENCE: 12
331 ctggaactgt ccctgtggtt                                              20
333 <210> SEQ ID NO: 13
334 <211> LENGTH: 20
335 <212> TYPE: DNA
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 07/15/2003
PATENT APPLICATION: **US/09/913,858B** TIME: 10:50:54

Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 5
Seq#:9; N Pos. 3,15
Seq#:10; N Pos. 14,17
Seq#:11; N Pos. 6

VERIFICATION SUMMARY DATE: 07/15/2003
PATENT APPLICATION: **US/09/913,858B** TIME: 10:50:54

Input Set : **A:\030560-057.ST25.txt**
Output Set: **N:\CRF4\07152003\I913858B.raw**

L:224 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:285 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0